SUPPLEMENTAL AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 10/635,368

Filing Date: August 6, 2003

Title: METHOD AND APPARATUS FOR APPLYING A STABLE PRINTED IMAGE ONTO A FABRIC SUBSTRATE

IN THE CLAIMS

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Please amend the claims as follows:

1-15. (Canceled)

16. (Currently Amended) A method for producing a multi-layer ink transfer sheet for receiving ink compositions thereon and subsequently transferring said ink compositions to a fabric substrate comprising:

providing a transfer sheet structure comprising a backing layer, a detachable release layer positioned on said backing layer, and an ink receiving layer positioned on said release layer, said ink receiving layer comprising an upper surface; and

delivering at least one quaternary ammonium salt onto said upper surface of said ink receiving layer of said transfer sheet structure to produce a completed ink transfer sheet, said quaternary ammonium salt binding to any anionic coloring agents within said ink compositions applied to said ink transfer sheet in order to produce a stable printed image; and

applying pressure to said multi-layer ink transfer sheet in an amount sufficient to ensure complete contact between said multi-layer ink transfer sheet and said fabric substrate.

- 17. (Original) The method of claim 16 wherein said quaternary ammonium salt is selected from the group consisting of tricaprylyl methyl ammonium chloride, ditallow dimethyl ammonium chloride, tetraoctyl ammonium bromide, and tridodecyl ammonium chloride.
- 18. (Original) The method of claim 16 wherein said ink transfer sheet comprises about 2 10 g of said quaternary ammonium salt per m² of said ink transfer sheet.
- 19. (Currently Amended) A method for producing a multi-layer ink transfer sheet for receiving ink compositions thereon and subsequently transferring said ink compositions to a fabric substrate comprising:

providing a transfer sheet structure comprising a backing layer, a detachable release layer positioned on said backing layer and an ink receiving layer positioned on said release layer, said ink receiving layer comprising an upper surface; and

delivering at least one quaternary ammonium salt selected from the group consisting of tricaprylyl methyl ammonium chloride, ditallow dimethyl ammonium chloride, tetraoctyl ammonium bromide, and tridodecyl ammonium chloride onto said upper surface of said ink receiving layer of said transfer sheet structure to produce a completed ink transfer sheet, said ink transfer sheet comprising about 2-10 g of said quaternary ammonium salt per m² of said ink transfer sheet, said quaternary ammonium salt binding to any anionic coloring agents within said ink compositions applied to said ink transfer sheet in order to produce a stable printed image; and

applying pressure to said multi-layer ink transfer sheet in an amount sufficient to ensure complete contact between said multi-layer ink transfer sheet and said fabric substrate.

- 20. (New) The method of claim 16 wherein said pressure applied to said multi-layer ink transfer sheet is about $0.05 - 2.0 \text{ lbs/in}^2$ of said multi-layer transfer sheet.
- 21. (New) The method of claim 20 further comprising applying heat to said multi-layer ink transfer sheet during said applying of said pressure.
- 22. (New) The method of claim 21 further comprising applying heat to said multi-layer ink transfer sheet while said multi-layer ink transfer sheet is positioned on said fabric substrate in an amount sufficient to cause said release layer and said ink receiving layer thereon to adhere to said fabric substrate.
- 23. (New) The method of claim 21 wherein applying heat to said multi-layer ink transfer sheet comprises heating said multi-layer ink transfer sheet to a temperature of about 150 – 200 °C while said ink transfer sheet is positioned on said fabric substrate.
- 24. (New) The method of claim 16 wherein delivering at least one quaternary ammonium salt onto said upper surface of said ink receiving layer of said transfer sheet structure includes:

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providing a thermal inkjet printing apparatus comprising at least one ink cartridge therein, said ink cartridge comprising a housing and a printhead, said printhead comprising ink expulsion means for delivering ink materials from said ink cartridge, said ink cartridge further comprising a supply of at least one ink composition within said housing, said supply of said ink composition being in fluid communication with said ink expulsion means of said printhead, said ink composition comprising at least one coloring agent and an ink vehicle; and

activating said ink expulsion means of said printhead in order to deliver said ink composition from said ink cartridge onto said ink receiving layer of said ink transfer sheet so that a printed image is formed on said ink transfer sheet, said anionic coloring agent in said ink composition binding to said quaternary ammonium salt in order to fix said coloring agent to said ink transfer sheet.

- 25. (New) The method of claim 16 further comprising applying heat to said multi-layer ink transfer sheet while said multi-layer ink transfer sheet is positioned on said fabric substrate in an amount sufficient to cause said release layer and said ink receiving layer thereon to adhere to said fabric substrate.
- 26. (New) The method of claim 19 wherein said pressure applied to said multi-layer ink transfer sheet is about 0.05 2.0 lbs/in² of said multi-layer transfer sheet.
- 27. (New) The method of claim 26 further comprising applying heat to said multi-layer ink transfer sheet during said applying of said pressure.
- 28. (New) The method of claim 26 further comprising applying heat to said multi-layer ink transfer sheet while said multi-layer ink transfer sheet is positioned on said fabric substrate in an amount sufficient to cause said release layer and said ink receiving layer thereon to adhere to said fabric substrate.

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29. (New) The method of claim 26 wherein applying heat to said multi-layer ink transfer sheet comprises heating said multi-layer ink transfer sheet to a temperature of about 150 – 200 °C while said ink transfer sheet is positioned on said fabric substrate.

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30. (New) The method of claim 10 wherein delivering at least one quaternary ammonium salt onto said upper surface of said ink receiving layer of said transfer sheet structure includes:

providing a thermal inkjet printing apparatus comprising at least one ink cartridge therein, said ink cartridge comprising a housing and a printhead, said printhead comprising ink expulsion means for delivering ink materials from said ink cartridge, said ink cartridge further comprising a supply of at least one ink composition within said housing, said supply of said ink composition being in fluid communication with said ink expulsion means of said printhead, said ink composition comprising at least one coloring agent and an ink vehicle; and

activating said ink expulsion means of said printhead in order to deliver said ink composition from said ink cartridge onto said ink receiving layer of said ink transfer sheet so that a printed image is formed on said ink transfer sheet, said anionic coloring agent in said ink composition binding to said quaternary ammonium salt in order to fix said coloring agent to said ink transfer sheet.

31. (New) The method of claim 19 further comprising applying heat to said multi-layer ink transfer sheet while said multi-layer ink transfer sheet is positioned on said fabric substrate in an amount sufficient to cause said release layer and said ink receiving layer thereon to adhere to said fabric substrate.